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Inside C2

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Italy curbs ChatGPT, starts probe over privacy concerns

MILAN/STOCKHOLM, March 31 (Reuters) - Italy's Data Protection Authority on Friday temporarily banned OpenAI's ChatGPT chatbot and launched a probe over a suspected breach of the artificial intelligence application's data collection rules.

The agency, also known as Garante, accused Microsoft Corp-backed (MSFT.O) ChatGPT of failing to check the age of its users who are supposed to be aged 13 and above.

ChatGPT has an "absence of any legal basis that justifies the massive collection and storage of personal data" to "train" the chatbot, Garante said. OpenAI has 20 days to respond with remedies or could risk a fine of up to 4% of its annual worldwide turnover.

OpenAI did not respond to a request for comment.

ChatGPT was still answering questions posted by Italian users on the platform on Friday evening.

The company was informed of the decision on Friday morning and it would have been materially impossible to pull the plug on access in Italy on the same day, but expect them to do it by Saturday, an authority spokesman said.

"If they ignore the ban, the authority can impose fines," the spokesman said.

Italy, which provisionally restricted ChatGPT's use of domestic users' personal data, became the first Western country to take action against a chatbot powered by artificial intelligence.

The chatbot is also unavailable in mainland China, Hong Kong, Iran and Russia and parts of Africa where residents cannot create OpenAI accounts.

Since its release last year, ChatGPT has set off a tech craze, prompting rivals to launch similar products and companies to integrate it or similar technologies into their apps and products.

A response by ChatGPT, an AI chatbot developed by OpenAI, is seen on its website in this illustration picture taken February 9, 2023. REUTERS/ Florence Lo/ Illustration/ File Photo

The rapid development of the technology has attracted attention from lawmakers in several countries. Many experts say new regulations are needed to govern AI because of its potential impact on national security, jobs and education.

"We expect all companies active in the EU to respect EU data protection rules. The enforcement of the General Data Protection Regulation is the responsibility of EU data protection authorities," a European Commission spokesperson said.

The Commission, which is debating the EU AI Act, may not be inclined to ban AI, European Commission Executive Vice President Margrethe Vestager tweeted.

"No matter which #tech we use, we have to continue to advance our freedoms & protect our rights. That's why we don't regulate #AI technologies, we regulate the uses of #AI," she said. "Let's not throw away in a few years what has taken decades to build."

On Wednesday, Elon Musk and a group of artificial intelligence experts and industry executives called for a six-month pause in developing systems more powerful than OpenAI's newly launched GPT-4, in an open letter citing potential risks to society.

OpenAI has not provided details on how it trains its AI model.

"The lack of transparency is the real problem," said Johanna Björklund, AI researcher and associate professor at Umeå University in Sweden. "If you do AI research, you should be very transparent about how you do it,"

ChatGPT is estimated to have reached 100 million monthly active users in January, just two months after launch, making it the fastest-growing consumer application in history, according to a UBS study published last month.

WEA LEE'S GLOBAL NOTES

03/31/2023

Former President Trump Is Indicted

It's the first time in US history that a current or former president has been indicted. The Manhattan District Attorney's office has been investigating the former president in connection with his alleged role in an hush money payment scheme and cover up involving adult film star Stormy Daniels that dates back to 2016.

The exact charges are unknown. The district attorney Bragg has been focusing on a felony charge of falsifying business records which carries a maximum prison sentence of four years.

Trump's indictment brings an historic political earthquake to the already shaky election season in the US. Trump has already entered the 2024 presidential candidate race and is comfortably ahead in all polls.

We must point out, with great regret, that this indictment really is a shame for our nation. Washington's political circle has always been an extremely complex courtyard. After more than two hundred years, the sacrifices and struggles of many people have established a strong democratic political system and established the US as the leading nation of the world. But with this unbelieveable indictment and endless political in–fighting, it all has really suddenly brought our nation down in the eyes of the world.

No matter from what point of view you can think about it, the current political developments in the US have been a sad misfortune for the country.

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Southern DAILY Make Today Different

Editor's Choice

A man cools off in a fountain in Washington Square Park as people take part in the Queer Liberation March in New York City, New York. REUTERS/Jeenah Moon

People attend a vigil marking the first anniversary of the liberation of the town of Bucha, outside Kyiv, Ukraine, March 31. REUTERS/Kai Pfaffenbach

A fire is seen as demonstrators use makeshift shields during an anti-government protest amid a stalemate between the government of President Guillermo Lasso and largely indigenous demonstrators who demand an end to emergency measures, in Quito, Ecuador June 23. REUTERS/Adriano Machado

Smoke rises after a missile strike in Kyiv, Ukraine. REUTERS/Gleb Garanich

People gather near the rubble of a grandstand that collapsed in a bullring during the celebrations of the San Pedro festivities, in El Espinal, Colombia. REUTERS/ Cristian Parra

People attend a vigil marking the first anniversary of the liberation of the town of Bucha, outside Kyiv, Ukraine, March 31. REUTERS/Kai Pfaffenbach

NSTC Plans Compare To The Manhattan Project In WW2

U.S. Prepares To Establish Its $11Billion National Semiconductor Technology Center (NSTC)

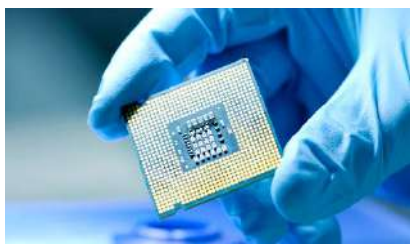
Compiled And Edited By John T. Robbins, Southern Daily Editor

The U.S. Department of Commerce, during the first quarter of this year, will issue guidelines on the first proposals for the creation of the $11 billion National Semiconductor Technology Center (NSTC) aimed at restoring the nation's leadership in the chip industry.
The effort is likened to the collaborative endeavor that created the world's first nuclear weapons. To take innovation from lab to fab, the NSTC, which is part of the U.S. CHIPS Act, will be a public-private consortium joining government and industry, as well as academia, entrepreneurs, workforce representatives and investors.
"This is a Manhattan Project moment," Carol Handwerker, a professor of semiconductor materials engineering at Purdue University, told EE Times in an exclusive interview.
The implementation priorities include building domestic manufacturing capacity to reduce reliance on foreign production, Peter Bermel, an associate professor at Purdue, told EE Times in the same interview. He is developing chip radiation-hardening technology in a project funded by the U.S. Department of Defense.

"The vast majority of chip manufacturing is happening abroad, and an even higher percentage of packaging, advanced packaging and heterogeneous integration," Bermel said.
"The vast majority of chip manufacturing is happening abroad, and an even higher percentage of packaging, advanced packaging and heterogeneous integration," Bermel said.
Several industry organizations, including the American Semiconductor Innovation Coalition (ASIC) and Mitre, have published recommendations on the creation of the NSTC and the National Advanced Packaging Manufacturing Program (NAPMP).
Specialist companies will need to collaborate to provide solutions that are not possible today, Raj Jammy, chief technologist with the Semiconductor Alliance at Mitre Engenuity, told EE Times in an exclusive interview.
"The industry is now being driven more and more by system needs as opposed to saying, 'Here's a great next-generation chip, go make some system out of it.' The situation is reversed now. What it means is that all these solutions that you're looking for cannot come from one single company."

Raj Jammy. (Source: Mitre)
Mitre Engenuity and its Semiconductor Alliance have joined U.S. chip companies that account for over half of the domestic industry's R&D, as well as top American universities.
Overseas coordination
To avoid duplicating earlier efforts, the NSTC will need to work with overseas groups, such as Belgium's Interuniversity Microelectronics Centre (imec), which has pioneered key technologies, according to Jammy.
"Having been the driving force behind the innovation in the semiconductor industry for almost 40 years, imec has all of the companies that the U.S. CHIPS Act is trying to support already as partners, thus we are delighted to help and support them (the NSTC) in any way we can," imec CEO Luc Van den hove said in a statement prepared for EE Times.
"Imec is a great example," Jammy said. "They have a central facility which has been working on this topic for some time. But in the U.S. now, we have the opportunity to essentially look at this whole problem afresh. We already have facilities on the ground … in Albany Nanotech or in MIT Lincoln Labs. How do we collectively make a network of such facilities so that we can do even bigger things?"
Albany Nanotech, operating the only publicly funded 300-mm chip facility in the U.S., has corporate partners, including IBM, GlobalFoundries, Samsung, Applied Materials, Tokyo Electron, ASML and Lam Research.
"It is absolutely important that we build a resilient network of R&D institutes that we work together with, as well as allied nations," Jammy said. "There are great capabilities out in Singapore or great capabilities out in France at the Leti Institute. They have some really remarkable work that they have done on SOI-based technologies for power electronics."

Singapore's Institute of Microelectronics has "phenomenally good packaging capabilities," according to Jammy.
The NSTC is also aimed at reducing reliance on China.
"The strategic competition with China is a long game on a complex technology playing field. Securing semiconductor chip manufacturing and ensuring the U.S. and our democratic allies lead the chips of the future is an important way to create resilience against supply chain compromise and denial," said Laurie Giandomenico, chief acceleration officer at Mitre. "Our role is to help balance industry objectives with national security interests, and that means CHIPS investments must build a sustaining national resource."
Chip packaging gap
Most of the world's chip packaging capacity lies outside the U.S.—in China and Taiwan. That's one of the largest gaps in the U.S. ecosystem. It is possible to reshore the packaging industry through greater automation, Jammy said. Up to now, the high labor intensity of the packaging industry has provided a strong competitive advantage to Asia, where wages are lower.
"A lot of the advanced packaging is now looking more and more like chip fabrication," Jammy said. "That's where companies like TSMC [Taiwan Semiconductor Manufacturing Co.] and Intel have excelled. When we introduce automation and new kinds of approaches in making these packages, there is a natural draw toward doing it in the country."
TSMC and Intel, which have developed 3D packaging technologies, are building new chip facilities in the U.S. in response to the CHIPS Act package of stimulus measures.



Labor shortages
As the U.S. prepares to build as many as 13 new chip fabs in the next few years, the NSTC must help solve a shortage of semiconductor engineers and technicians.
Within the next five years, the U.S. will need about 50,000 new semiconductor engineers, more than twice the number that local universities are graduating.
To help fill that gap, the U.S. will probably need to relax visa restrictions to attract semiconductor talent from overseas, the ASIC group said in its recommendations.
"While upcoming efforts by the U.S. government, academia and industry are intended to build a strong domestic pipeline of talent, in the short term, the U.S. industry continues to look to foreign nationals under the H1-B category to supplement the talent pool."
Even so, the NTSC will need to build more semiconductor talent locally over the long term, according to Jammy.
"There is an opportunity for us to examine very carefully how can we retrain; how can we repurpose people," he said. "The armed forces, for example, have well trained and well qualified people. With a little bit of training, they could be very useful in fabs. How do we encourage more people, especially minorities and women who have not necessarily had an opportunity?"
Longer term, the U.S. will need to strengthen STEM (science, technology, engineering and math) education to solve human resource shortages, he added.

IP stewardship
Management of intellectual property (IP) from a range of companies and organizations will be a problem for the NSTC.
Removing barriers of entry for smaller and medium-sized companies and start-ups, such as the prohibitive cost of IP, is critical to the contribution of these organizations to the semiconductor community, according to a paper published by the ASIC group: "The NSTC should be structured so these entities are able to easily leverage IP to develop new technology and related IP in a way that allows them to license that technology easily and to raise follow-on capital from investors and strategic partners."
Déjà vu?
The NSTC project hearkens back to Sematech, a partnership started during the 1980s between the U.S. government and 14 American chipmakers aimed at regaining competitiveness lost to Japan. Sematech helped fund the creation of Albany Nanotech in New York.
"Sematech was set up as an entity which was driven and managed by the chipmakers, but one very important thing that happened was the industry started shifting," Jammy said, who also served as a VP with Sematech in charge of materials and emerging technologies from 2008 to 2013. "There were many more fabless companies coming into the mix… Today, as we start looking at NSTC and what we need to do, we have to rethink the whole equation, and we have to make sure that all the ecosystem is playing."

SEMATECH

Related
U.S. Chip Sanctions 'Put Temporary Checkmate on China'
Biden Administration's escalation of the chip war with China is expected to at once hamper China's foundry industry and cost multinational chipmakers billions of dollars in lost sales.

Exclusive Interviews
The latest U.S. salvo in the chip war against China will set back its domestic chipmakers by generations, while global suppliers of semiconductors and fab tools will incur billions of dollars in lost sales because of a giant dent in demand out of China, analysts told EE Times.
The administration of U.S. President Joe Biden has strengthened Cold War measures from longer than 40 years ago. In its new rivalry, the U.S. aims to freeze China's advancement on a new front: chip technology that is critical for economic development and military superiority.

Based on the Cold War-era Wassenaar Arrangement, including more than 40 nations, the latest U.S. regulations ban exports of Nvidia and AMD GPUs destined for supercomputers in China, as well as sales of chipmaking tools and design software.
For now, the U.S. export rules have probably stymied the advancement of China's chip industry, Brett Simpson, senior analyst at Arete Research, told EE Times.
(Article Continues Below)

Southern DAILY Make Today Different

(Article Continues From Above)

U.S. Prepares To Establish Its $11 Billion National Semiconductor Technology Center (NSTC)

Compiled And Edited By John T. Robbins, Southern Daily Editor

U.S. Chip Sanctions 'Put Temporary Checkmate on China'

Exclusive Interviews (Cont.)
"The sanctions put a temporary checkmate on China developing their foundry industry at more advanced nodes," he said. "The main solution or response from China is in building their own equipment ecosystem, which will require mastering decades of Western R&D, particularly in areas such as material science and lithography. This will be a long and challenging road—but this has always been the main solution, and the restrictions do not change that."

Brett Simpson (Source: Arete Research)
The latest U.S. measures are likely to set back SMIC, China's largest chipmaker, by years.
Although there has been some "chatter" that SMIC can manufacture 7-nm chips without EUV lithography, the cost/benefit is not compelling, and the scope of SMIC's leading-edge production will be limited, Mehdi Hosseini, senior equity research analyst at Susquehanna International Group (SIG), wrote in a report to investors obtained by EE Times.
"We remind investors that SMIC has been trying for more than 20 years to catch up to the likes of TSMC and UMC, with little to no success."
Hosseini covers chipmakers like Taiwan Semiconductor Manufacturing Co. (TSMC) and Samsung, as well as chip tools suppliers like ASML, for SIG—a privately held trading and technology firm.
The multinational chipmakers currently operating in China like TSMC, Samsung, and Intel have U.S. permission to continue manufacturing there for about a year. After that, they will most likely be forced to wind down in China, said Paul Triolo, a senior VP at Dentons Global Advisors.

Mehdi Hosseini (Source: SEMI)
"Eventually, non-Chinese multinational firms manufacturing in China given short-term reprieves will have a hard time maintaining their China operations," Triolo said. "Without the ability to continue to move up the technology curve, China-based facilities will eventually become less competitive, serving a gradually diminishing market."
China will need to rely more on Taiwan-based foundries like TSMC for capacity support, Simpson said.
"These restrictions will only create more challenges for global supply chains–where China is a key cog," he said. "We would expect inventory levels to remain elevated in China. There seems little scope at this stage in finding a settlement."
Lost sales estimated
Analysts interviewed by EE Times also predicted that global suppliers of semiconductors and fab tools will incur billions of dollars in lost sales because of a giant dent in demand out of China. And details giving credence to those predictions are already spilling out: Equipment maker Applied Materials Inc. last week told the press it was lowering its sales estimates for the fourth quarter by about $400 million, pointing to the restrictions as the key factor.
SIG estimates the downside risk to wafer fab equipment from the U.S. chip sanctions to be in the $8 billion range, "or 8% of the average of our annual wafer fab equipment forecast for the 2022-2025 period," Hosseini wrote. "On the supercomputer side, we see an approximate 10% downside risk to our estimates for TSMC, the main GPU manufacturing partner."

The U.S. has also prohibited its "people" from working in the Chinese semiconductor industry without a license. The measures will cost the global industry nearly $10 billion over the next three years because of lost sales of goods and services to China, he added.
Some U.S., European firms caught in crossfire
While the U.S. chip sanctions will have the greatest impact on Chinese chipmakers like Yangtze Memory Technologies Corp (YMTC), ChangXin Memory Technologies (CXMT,) and Semiconductor Manufacturing International Corp. (SMIC), U.S. and European chip tool suppliers like ASML, Applied Materials, Lam Research, and KLA will be caught in the crossfire, Triolo said.

Paul Triolo (Source: Dentons Global Advisors)
"ASML will also lose significantly, though the company this week claimed the losses would be low because they have such a huge backlog for clients such as TSMC, Samsung and Intel."
ASML, a Dutch company that serves as the world's only supplier of extreme ultraviolet (EUV) lithography tools used to make the most advanced chips, did not estimate the size of its potential losses. Following its quarterly earnings announcement this week, company representatives said in a call with analysts and journalists that it expects to continue exporting less advanced, deep ultraviolet (DUV) equipment to China.
"The fact that we are a European company with limited U.S. technology in it, of course, creates this situation where a direct impact on us is fairly limited," ASML CFO Roger Dassen said in the earnings call. "We can continue to ship non-EUV lithography tools out of Europe into China."
At this point in time, ASML still cannot meet global demand, according to Dassen. If ASML can no longer supply certain tools to certain customers in China, the demand outside of China will still offset the potential loss in sales, he added.
The U.S. aims to offset the short-term financial impact from the sanctions on China with the recently passed CHIPS and Science Act, including a $52 billion investment-stimulus package.

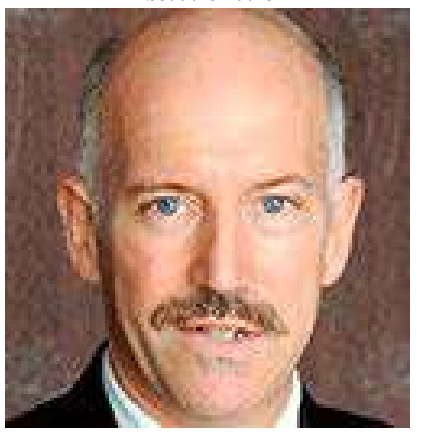
While that new law and similar legislation in the E.U. will help fund foundry construction outside China and soften the blow from U.S. chip sanctions, the stimulus measures cannot replace major losses in the China market, Triolo said. "This has the potential to be a multi-billion dollar hit to multiple U.S. technology leaders in the sector, including GPU makers and semiconductor manufacturing equipment leaders."
Triolo noted that California-based Lam Research this week estimated that sales losses in China will be as much as $2.5 billion in 2023.
'Watershed moment' is complex
The U.S. export rules announced Oct. 7 represent a pivotal moment, strengthening the argument that the U.S. is in a new Cold War with China, Hosseini said.
"While the U.S. appears to have just started to consult with allies, in our view, there is no doubt that more semiconductors will be made outside of China."
Still, the U.S. is "joined with China at the hip," Hosseini added, noting the reliance of the U.S. on trade with China.
"We expect this watershed moment to remain highly complex and difficult to navigate, leading to ongoing uncertainties with no clear path to quantifying the downside risk and eventual outcome."
"There's going to be a continual decoupling with China over the next five to 10 years," Dan Hutcheson, an analyst at TechInsights, told EE Times.
International companies need to, he said, "prepare for the real probability that business with China can go to zero in the next five to 10 years."

'Our allies are not on board'
The sanctions are also likely to strain U.S. ties with allies like Japan that rely on trade with China, Hutcheson said.
"What we often see is that our allies are not on board," he said. "They have equipment companies in their countries that are not following these regulations. Biden's tried a multilateral approach, but the Japanese government still allows a lot of stuff to go to China."
As EE Times reported last month, the U.S. is pushing for the creation of a "Chip 4" alliance with chipmaking nations Japan, South Korea, and Taiwan to share information and tighten control of exports to China. The plan is still at a preliminary stage.
Complications for China outlined
Chinese manufacturers will still get the technology they need—at a higher price, Hutcheson said. "It slows down their growth. It also slows down their ability to dominate the world. China's playbook has been to build too much capacity, flood the market and then force all the competition out of business."
China's efforts to build a domestic supply of semiconductor tools will be difficult, Triolo said.
"The ability of Chinese semiconductor tool makers to 'catch up' will be very problematic," he said, noting the wide technology gap separating them from industry leaders like ASML. "The restrictions also include inputs to domestic Chinese toolmakers, which will slow their ability to move up to higher technology levels."
Because Chinese chipmakers are affected by the sanctions, that nation's domestic toolmakers have no place to go to develop and compete either domestically or internationally, he added.

Widening the lead
Last month, U.S. National Security Advisor Jake Sullivan said the U.S. must "revisit the long-standing premise of maintaining relative advantages over competitors in certain key technologies."
Under the Wassenaar Arrangement, the U.S. tried to stay a few generations of technology ahead of its rivals.
"That is not the strategic environment we are in today," according to Sullivan. "Given the foundational nature of certain technologies, such as advanced logic and memory chips, we must maintain as large of a lead as possible."
Will China change course?
Analysts are still waiting to see how China will respond.

Jordan Schneider (Source: Rhodium Group)
"It's still an open question what the Chinese government policy response is going to be," Jordan Schneider, a China tech analyst with research firm Rhodium Group, told EE Times. "The State Council has reportedly expressed disappointment at the level of progress" after decades of effort to build a domestic chip industry.
"Are they going to recognize that the leading edge is going to be incredibly expensive and maybe not even possible even within a 10-year horizon? These firms have huge amounts of state investment, and their priorities are very much subject to what Beijing wants," he said. "Look at China's effort over the last 10 years: The majority of semiconductors in China, by 2025, are supposed to be made in China. They're not even close."
"You may end up seeing these firms instead redouble on the lagging nodes and try to capture market share," Schneider added. "Will Beijing be okay with them taking one step back to go two steps forward?" (Courtesy https://www.eetimes.com/)

About the Author



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*Barbara Jorgensen, Editor-in-Chief of EPSNews, contributed to this article.